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August 9, 2021

Mr. Chan Pongkhamsing EPA Remedial Project Manager U.S. EPA Region 10 1200 Sixth Avenue, ECL 111 Seattle, WA 98101

RE: Farm Ponds Parcels Site Characterization Work Plan, Revised

Dear Mr. Pongkhamsing:

Please find the enclosed copy of the Farm Ponds Parcels Site Characterization Work Plan, Revised. Please let me know if you'd like a hard copy of the report mailed to you. We plan to commence the field work (namely sampling) as soon as possible, so your prompt review of the attached would be appreciated.

If you have any questions, please feel free to contact me by phone at 541.812.7230 or by email at Michael.Riley@ATImetals.com.

Sincerely,

Michael Riley

Manager, Environmental Operations & Compliance

Enclosures: 1. Farm Ponds Parcels Site Characterization Work Plan, Revised



Farm Ponds Parcels Site Characterization Work Plan

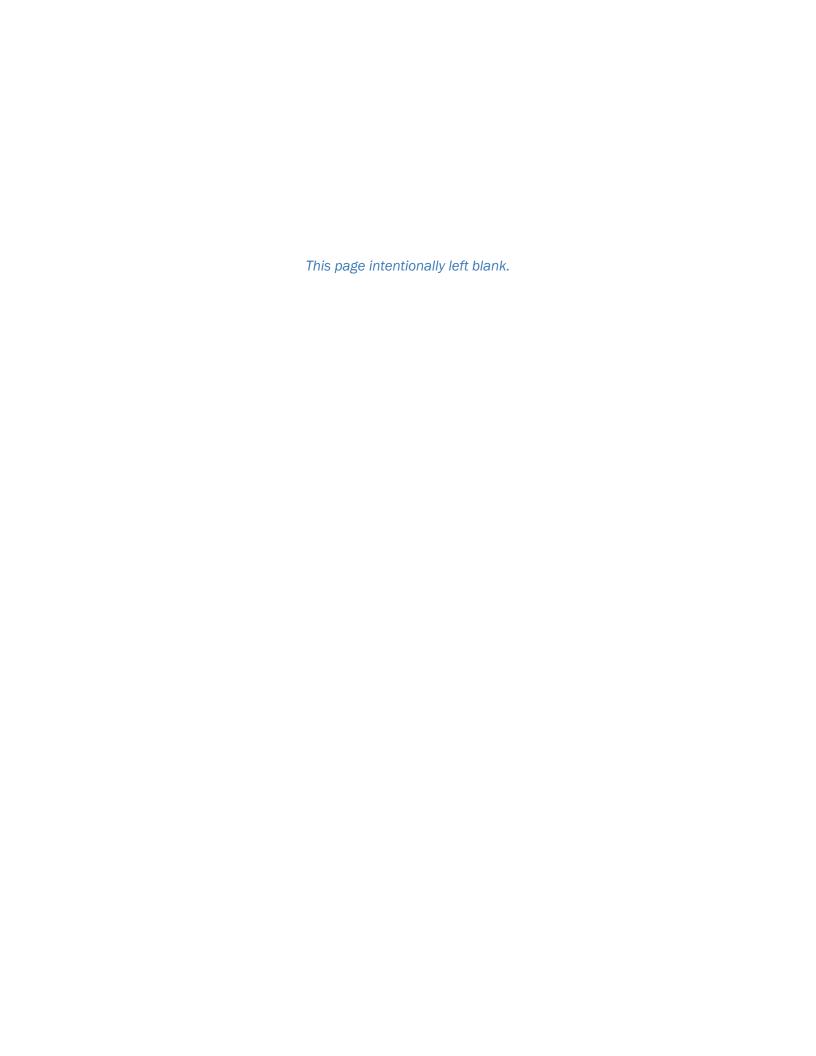
ATI Millersburg Operations, Oregon

Revised August 2021

Prepared by:

GSI Water Solutions, Inc.

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Figure 3a Soil and Lime Solid Sampling

Figure 3b Farm Ponds Area Monitoring Wells

Figure 4 Proposed Sampling Map

Appendix

Appendix A EDR Aerial Photo Decade Package

Abbreviations and Acronyms

Apex Apex Laboratories, LLC

ATI Specialty Alloys and Components – Millersburg Operations

bgs below ground surface
COI constituent of interest

CVOC chlorinated volatile organic compound
CWTS Central Wastewater Treatment System

DEQ Oregon Department of Environmental Quality

DU decision unit

EPA U.S. Environmental Protection Agency

GPS global positioning system

IDW investigation-derived was:

IDW investigation-derived waste

ISM Incremental Sampling Methodology

mg/kg milligrams per kilogram

NAD83 North American Datum of 1983

NPDES National Pollutant Discharge Elimination System

NPL National Priorities List

OU Operable Unit

PCB polychlorinated biphenyl

pCi picocuries

QC quality control

RBC Risk-Based Concentration

RCRA Resource Conservation and Recovery Act

RfR Ready for Reuse

ROD Record of Decision

RSL Regional Screening Level

Site Farm Ponds Area

VOC volatile organic compound

Work Plan Farm Ponds Parcels Site Characterization Work Plan

SECTION 1: Introduction

1.1 Background

This Farm Ponds Parcels Site Characterization Work Plan (Work Plan) presents a scope for additional characterization of the surface and subsurface soils in the Farm Ponds Parcels portion of the Farm Ponds Area. The Farm Ponds Area is a part of the Millersburg Operations, formerly known as the Teledyne Wah Chang facility, now known as TDY Industries, LLC d/b/a ATI Specialty Alloys and Components – Millersburg Operations (ATI) and referred to herein as the "Site". The Farm Ponds Area is located at the end of Arnold Road NE in Millersburg, Oregon, approximately 0.75 miles north of the Millersburg Operations Main Plant (Figure 1). The Farm Ponds Area (Figure 2) includes eight tax lots¹ covering approximately 115 acres and consists of two subareas (Farm Ponds Parcels and Soil Amendment Area), which are described below.

1.1.1 Farm Ponds Parcels (74 acres)

In 1978, ATI modified its treatment process to reduce radioactive compounds in solids from the Central Wastewater Treatment System (CWTS), which allowed the solids to be contained in wastewater ponds (EPA, 2008). In 1979, to manage CWTS lime solids, ATI constructed four 2.5-acre bermed ponds. Each were constructed by placing a mixed soil-bentonite liner on the existing grade and building berms around their perimeter (Figure 3a) (CH2M HILL, 1993; EPA, 1994 and 2008). The ponds treated and stored CWTS wastewater by discharging a slurry of lime solids and wastewater at the southern end of the ponds. Lime solids settled out of the slurry and were retained in the ponds, and the liquid was recovered on the northern end of the ponds and returned to the CWTS. The ponds were operated from 1979 to 1993 under a National Pollutant Discharge Elimination System (NPDES) permit issued by the Oregon Department of Environmental Quality (DEQ) (CH2M HILL, 1998 and 2003). In 1989, chlorinated volatile organic compounds (CVOCs) were detected in groundwater at the Farm Ponds Area (CH2M HILL, 1993).

In 1993, ATI stopped using the Farm Ponds Area for lime solids management and began managing lime solids at the Main Plant with an advanced solids handling system (CH2M HILL, 2003). Between June 1995 and October 1999, ATI removed an estimated 62,000 tons of lime solids from the ponds, and disposed of the solids at the Columbia Ridge Landfill in Arlington, Oregon. In 2001, the berms were pushed in, the area was regraded, and fencing was installed around the footprint of the former ponds to restrict access (CH2M HILL, 1998 and 2003; EPA, 2008).

When the ponds were leveled, the portion of the berm surrounding NPDES monitoring well SS was not removed (Figure 3a). Based on the well construction log, this left well SS with approximately 9 to 10 feet of its 12-foot length above the native ground surface in a berm remnant. Because of the shallow nature of the well, ATI had the well and remaining berm material removed through excavation (GSI, 2013). Polychlorinated biphenyl (PCB) Aroclors 1248 and 1254 were detected in nine soil samples collected from the well SS and berm excavation (GSI, 2013). Total PCB concentrations did not exceed the Toxic Substances Control Act PCB standard of 50 parts per million. Low concentrations of CVOCs were detected in groundwater samples collected from post-excavation temporary wells (Figure 3b). The level of risk presented by these CVOCs was deemed to be low and did not warrant additional action (GSI, 2013). Currently, the Farm Ponds Area consist of open fields, farm fields, and wetlands, in addition to a nonhazardous waste staging area in the northeast corner of tax lot 00700 and a local model aeronautics club on the south side of tax lots 00104 and 00105.

GSI Water Solutions, Inc. 5

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 $^{^1\,\}text{Tax}$ Lots 10S03W29-204, 10S03W28-700, 10S03W28-800, 10S03W28-104, 10S03W28-105, 10S03W28-101, 10S03W28-108, and 10S03W28-109 (0RMAP, 2018).

1.1.2 Soil Amendment Area (41 acres)

In the mid-1970s, DEQ issued ATI permits² to experimentally apply lime solids from the CWTS as a beneficial soil amendment to agricultural land. ATI land-applied the lime solids during a single event in 1976 to an area that roughly corresponds with tax lot 00108 in Figure 2. The Soil Amendment Area has been used for agricultural purposes over the subsequent years (CH2M HILL, 1993). In 1994, ownership of the Soil Amendment Area was transferred to the City of Millersburg through a deed agreement between the City of Millersburg and ATI (EPA, 2006 and 2008).

1.2 Regulatory Framework

The Site was listed on the National Priorities List (NPL) in 1983, and ATI entered into a Consent Order and Agreement in 1996. U.S. Environmental Protection Agency (EPA) organized the Site into three Operable Units (OUs), and issued a Record of Decision (ROD) for each OU:

- OU1 Sludge Ponds (in the Solids Area, shown in Figure 1)
- OU2 Groundwater and Sediment
- OU3 Surface and Subsurface Soils

This Work Plan focuses on further evaluation of the Farm Ponds Parcels portion of the OU3 ROD³. A second work plan, detailing additional assessment in the Soil Amendment Area, will be submitted under separate cover.

A summary of the original remedial action objectives for soil in OU3 ROD at all Millersburg Operations areas include (EPA, 1995):

- Reduce exposure to radon that would occur in future buildings constructed on the Main Plant and the Soil Amendment Area.
- Reduce surface gamma radiation to acceptable levels.
- Where surface and subsurface chemical risks are acceptable based on industrial or agricultural use, ensure that these areas are not used for other purposes, and proper handling and disposal of soil occurs when it is disturbed.
- Provide information on the location of the material to plant workers, future site purchasers, or regulatory agencies, where there are areas with subsurface contamination.

The OU3 ROD addresses surface and subsurface soils that are contaminated with PCBs, radionuclides, and other contaminants (EPA, 1995). EPA concluded in the OU3 ROD that the industrial and farm worker scenarios were most appropriate for determining the need for remedial action for the Site. After completion of a risk assessment, a cleanup level of 4 picocuries (pCi)/liter for indoor radon was selected. A soil radium-226 concentration greater than 3 pCi/gram could result in a radon concentration in future buildings exceeding the 4 pCi/liter radon action level.

The OU3 ROD does not establish regulatory standards for most of the constituents that have been analyzed in the Farm Ponds Parcels soils because soil was not identified as posing a risk to human health and the environment (if undisturbed). In order to provide context for the soil quality data at the Farm Ponds Parcels,

² Permit No. 1063 and Permit No. 1079.

³ Record of Decision Declaration, Decision Summary, and Responsiveness Summary for Final Remedial Action for Surface and Subsurface Soil Operable Unit, Teledyne Wah Chang Albany Superfund Site, Millersburg, Oregon (EPA, 1995).

previous soil analytical data collected between 1990 and 2012 were compared to the following risk-based screening levels:

- EPA Regional Screening Levels (RSLs) for ingestion, dermal contact, and inhalation of soil composite worker⁴ exposure scenario (EPA, 2018);
- DEQ Risk-Based Concentrations (RBCs) for ingestion, dermal contact, and inhalation of soil construction worker scenario (DEQ, 2018).

1.3 Purpose

In December 2018, ATI sent a petition letter to EPA requesting a partial deletion of the Farm Ponds Area from the NPL in order to facilitate site redevelopment. In 2019, EPA conducted a Remedial Process Optimization Study, resulting in the issuance of the Optimization Review Report that included a number of recommendations (EPA, 2019). One of the recommendations was for the issuance of a Ready for Reuse (RfR) determination for the Farm Ponds Area. Since ATI only owns the Farm Ponds Parcels and not the Soil Amendment Area, the Farm Ponds Parcels are the focus of ATI's request for an RfR determination. The RfR determination would allow redevelopment to proceed while the parcel remains part of the Superfund Site.

This Work Plan consists of field work that ATI will conduct to complete a data gap assessment of soil in the Farm Ponds Parcels for the purpose of obtaining an RfR determination in preparation for property development or transfer.

This Work Plan is organized as follows:

- Section 1 Introduction. Provides an overview of the Site history, and the purpose and objectives of the scope described in this Work Plan.
- Section 2 Data Gap Assessment. Identifies data gaps, and describes the field work that will be conducted to address data gaps.
- Section 3 Sampling Protocols. Provides standard operating procedures for conducting field work (e.g., sampling methods, sample naming conventions, etc.).
- Section 4 Reporting. Describes the documents that will be prepared as a part of this additional investigation.
- Section 5 –References.

⁴ A composite worker is assumed to be a long-term, full-time worker who spends most of the workday doing maintenance activities, such as moderate digging and landscaping in surface soils. This scenario combines the most protective exposure assumptions of the outdoor and indoor workers, including an exposure frequency of 250 days/year.

SECTION 2: Data Gap Assessment

Over 50 soil samples were collected and 24 groundwater monitoring wells and 10 NPDES wells were installed at the Farm Ponds Area between 1979 and 2015. Although soil and groundwater quality at the Farm Ponds Area has been extensively characterized over the last 36 years, additional assessment of the soils in the Farm Ponds Parcels portion of the Farm Ponds Area is necessary to provide sufficient data needed prior to property development or transfer.

2.1 Data Gap Description

Since the ponds were closed 25 years ago, ATI has characterized and remediated the Farm Ponds Parcels under a Consent Order and Decree with EPA. The lime solids, which were the source of the CVOCs, have been removed. CVOCs in groundwater are naturally attenuating and have been below cleanup levels since 2011, with the exception of a localized area on the south side of the former ponds around a single monitoring well (PW-104s), where CVOC concentrations slightly exceed cleanup levels (Figure 3b). The CVOCs in groundwater do not pose a risk to human or ecological receptors because use of groundwater is deed restricted. Groundwater in the Farm Ponds Parcels continues to be monitored annually. Additionally, as shown on the historical aerial photographs from 1936 to 2016 (Appendix A), the Farm Ponds Area has not been used for industrial processes beyond the uses previously discussed in Section 1. No other groundwater source areas related to ATI operations are suspected in this area. Therefore, no additional groundwater assessment is warranted, and groundwater assessment is not included as part of this Work Plan.

The only potentially complete exposure pathway at the Farm Ponds Parcels currently is ingestion and inhalation of surface soil. However, under future industrial/commercial use, potentially complete exposure pathways consist of ingestion and inhalation of surface soil, ingestion and inhalation of subsurface soil, and exposure to radon concentrations in future buildings.

No semi-volatile organic compounds have been detected above method reporting limits in Farm Ponds Parcels soil. Constituents that have been detected above method reporting limits included various metals, volatile organic compounds (VOCs), and PCBs (Table 1).

Except for arsenic and zirconium, metals concentrations were below their respective EPA RSLs or DEQ RBCs for ingestion, dermal contact, and inhalation. Arsenic was estimated to be present in a single sample at a concentration of 4.36 milligrams per kilogram (mg/kg), which is slightly above the EPA RSL for ingestion, dermal contact, and inhalation by a composite worker of 3.0 mg/kg (Table 1). Zirconium was detected above the EPA RSL of 93 mg/kg in all samples in which it was analyzed (Table 1) based on the most conservative exposure scenario (composite worker).

All VOC concentrations were below their respective EPA RSLs or DEQ RBCs for ingestion, dermal contact, or inhalation (Table 1). VOC detections were generally restricted to soils directly beneath the former location of the lime solids.

PCB concentrations in soil ranged from below the method reporting limit to 4.3 mg/kg (Table 1), which is the same order of magnitude as the average PCB concentration in the Farm Ponds Area summarized in the OU3 ROD (i.e., 1.1 mg/kg).

In summary, low levels of VOCs, PCBs, arsenic, manganese, and zirconium were detected in soil in the Farm Ponds Parcels. Additional soil evaluation is needed prior to future property development or transfer and will include assessment of PCBs, total metals (i.e., arsenic, manganese, and zirconium), VOCs, radionuclides, and total organic carbon in the surface and subsurface soils. Further assessment of additional metals in soil is not warranted as these constituents are present at low-level concentrations and do not pose a risk to human health.

Soil from current grade to 1 foot below ground surface (bgs) is targeted in this Work Plan. This is based on the findings from the Remedial Investigation and Feasibility Report (CH2M HILL, 1993) and the construction and use of the former Farm Ponds. The former Farm Ponds were built above grade, including the soil-bentonite liner. The wastewater and lime solids were piped from the CWTS at the Main Plant to the ponds, where lime solids settled out of the slurry and were retained in the ponds, and the liquid was recovered on the northern end of the ponds and returned to the CWTS (CH2M HILL, 1993; EPA, 1994 and 2008). During the decommissioning of the ponds, the lime solids were removed and disposed at the Columbia Ridge Landfill. Any small amount of lime solids remaining would have been spread across the surface at the Farm Ponds Parcels when the berms and general area were regraded in 2001 (CH2M HILL, 1998 and 2003; EPA, 2008).

2.2 Methods for Addressing Data Gap

ATI will collect data to further assess soils in the Farm Ponds Area by collecting soil samples using Incremental Sampling Methodology (ISM) within the boundaries of the Farm Ponds Parcels shown in Figure 4.

The soil samples will be analyzed for:

- Total metals, arsenic, manganese, and zirconium by EPA Method 6020B ICP/MS.
- PCBs in accordance with EPA Method 8082.
- Radionuclides, including radium 226/228 by EPA Method EMSL-19, and thorium and uranium by EPA Method M6020B ICP/MS.
- VOCs in accordance with EPA Method 8260.
- Total organic carbon in accordance with EPA Method 9060A.

This data gap investigation is focused on the shallow surface and subsurface soils to depths ranging from surface to approximately 1 foot bgs. The ISM sampling procedures are detailed in Section 3.

SECTION 3: Sampling Protocols

The following section discusses procedures that will be used when implementing this Work Plan. Specifically, it documents sampling methods, sample nomenclature, laboratory analysis, quality control (QC) samples, and management of investigation-derived waste (IDW). Work will be conducted in accordance with the Quality Assurance Project Plan for the Site (GSI, 2016).

Select areas will be characterized using ISM, which is a structured composite sampling protocol that reduces data variability, increases sample representativeness, and reduces the chance of missing significant contamination in a volume of soil targeted for sampling (ITRC, 2020). ISM will be the preferred precharacterization sampling approach as ISM obtains data that are more representative of average concentrations than data from discrete or composite samples and follows a structured sampling protocol that reduces data variability, increases sample representativeness, reduces the chance of missing significant contamination, provides statistical confidence, and yields consistent and reproducible results. ISM characterizes the average concentration of constituents in a predefined area called a decision unit (DU). To conduct ISM sampling, numerous samples of soil (each called an increment) are collected and combined, processed, and subsampled according to specific protocols. While ISM DUs can be as small as the sampler deems practical, ISM is generally the method preferred over composite sampling when the goal is to characterize average exposure risk within a larger operational area.

ISM DU boundaries are presented in Figure 4. ISM samples will be analyzed for constituents of interest (COIs) outlined in Table 2. Apex Laboratories, LLC (Apex), of Tigard, Oregon, will be the primary contract laboratory for all work and will (1) perform chemical analyses of samples collected and (2) subcontract chemical analyses to other analytical laboratories as needed. Philip Nerenberg will serve as the laboratory Project Manager to oversee Apex's laboratory performance.

3.1 ISM Sampling Approach

The ISM sampling objective is to characterize the nature and distribution of COIs in subsurface soil. Six DUs will be delineated (Figure 2). ISM DUs to be addressed include the following:

- DU-01: Tax lot 00204 adjacent to the west side of the former Farm Ponds
- DU-02: Former ponds location, western half Ponds
- DU-03: Former ponds location, eastern half
- DU-04: Area adjacent to the south side of the former Farm Ponds (vicinity of the former soil berm and former NPDES wells SS and SD)
- DU-05: Tax lot 00105 adjacent to the east side of the former Farm
- DU-06: Tax lot 00104 east side of site area

As depicted in Figure 2, 50 increments have been identified within each DU, consistent with DEQ's *Decision Unit Characterization* (DEQ, 2020). The planned sampling depth for each increment is 0 to 1 foot bgs.

3.1.1 ISM Location Positioning

Increment locations within each DU were selected based on a systematic random approach as per DEQ's Decision Unit Characterization (DEQ, 2020) (also known as systematic grid sampling with a random start) using a triangular grid generated by ArcGIS 10.6.1 and Visual Sample Plan 7. Using a systematic random grid, as opposed to a simple random sampling approach, reduces the probability of missing areas with significantly elevated concentrations. Increment sample locations are shown in Figure 4.

Increment positions will be entered into a high-precision global positioning system (GPS) unit to target sample locations as close to the selected point as is practical. If surface obstructions prevent sampling at the planned location, the location can be moved up to 6 feet in any direction without recording changes. Movement beyond 6 feet from the planned location should be recorded with an updated location. Abandonment of the increment due to issues with increment collection should be noted in a field logbook. Locations found in the field to be in a paved or hardscaped area will be moved as close as possible to the edge of the pavement/hardscaping and collected.

When obtaining the coordinates, the standard projection method to be used during field activities is Horizontal Datum, North American Datum of 1983 (NAD83), State Plane Coordinate System, Oregon South Zone. The positioning objective is to accurately determine and record the positions of all sampling horizontal locations to within ± 6 feet. Station accuracy may be affected by satellite positioning and obstructions, such as high steep banks or heavy cloud cover.

3.1.2 ISM Soil Sampling Collection Procedures

At least 50 randomly spaced increments will be assigned within each DU. The incremental soil samples will be collected using a small diameter (1-inch diameter) stainless steel auger bit attached to a handheld drill, a decontaminated stainless steel shovel, or decontaminated 3-to-4-inch hand auger. The sampling device will be decontaminated between sampling in each DU but not between increments within a DU. The sampling device will be decontaminated in the following manner:

- Wash with a brush and Alconox or other phosphate-free detergent.
- Rinse with tap water.
- Rinse with deionized water.
- When dry, cover decontaminated equipment with aluminum foil for temporary storage and/or transport, if applicable.

To minimize sample contamination, gloves will be replaced after handling each sample, or more frequently, as appropriate.

At each incremental location, after removal of surface vegetation, soil from the top 12 inches will be extruded from the sampling device and placed into a large labeled, pre-cleaned glass sample container of approximately 4 liters. Significant root mass, when present, should be removed from the top of the increment and discarded. However, degraded or fine organic materials are acceptable for collection. The field sampler then will advance to the next incremental location and repeat the process. Field personnel will aim to collect the sample volume (0 to 1 foot bgs) from each increment, and will aim to make each increment be of equal volume. All increments from a single DU will be placed into a single sample container provided by the laboratory, and will be homogenized and processed by Apex.

Excess soil from the ISM sampling device will be placed back into the sampled increment hole within the DU from which it was collected.

3.1.3 Laboratory Processing

When processing the ISM samples, Apex will use the entire sample volume from each DU (i.e., 50 or more incremental subsamples from each DU) to create a composited, homogenized sample. The ISM sample for each DU will be processed following the procedures outlined in DEQ's *Decision Unit Characterization*, including drying and homogenizing using standardized 2-dimensional slab-cake procedures (DEQ, 2020).

3.2 Field Quality Control Sample

A field QC sample will be collected during the sampling event in the form of a replicate. The field replicate for this event will be collected from DU-01. The field replicated will allow an assessment of the within-location variability in average surface soil concentrations across the DU. A field rinsate blank will be collected prior to beginning the sampling effort in DU-02 to verify that proper decontamination procedures were employed and cross-contamination was not introduced between DU sample collection efforts.

3.3 Laboratory Replicate Sample

A split sample will be taken by the laboratory staff after processing DU-02. This will evaluate the effectiveness of sample homogenization and within-sample variability.

3.4 Sample Nomenclature

During sample collection, a unique code will be assigned to each sample as part of the data record. Station IDs are listed in Table 2. The ID code will indicate the sample type, sampling location, and level of duplication. The first component of the sample ID will be an abbreviation for the sample type followed by the station ID or monitoring well number, with leading zeros used for stations for ease of data management and correct sorting. Additional codes may be adopted, if necessary, to reflect sampling needs.

For the field replicate sample, an extra '1' will be added to the start of the station ID number of the original sample. The sample type code (e.g., ISM) will correspond to the sample type for which the field replicate was collected. Additionally, the month and year will be added to the sample ID.

The following are examples of sample IDs for ISM samples:

- ISM-04_0821: ISM soil sample collected in August 2021 from DU-04
- ISM-102 0821: Replicate ISM soil sample collected in August 2021 from DU-02.

3.5 Investigation Derived Waste

No soil IDW will be generated during this sample event. Extra soil from a core will be returned to the increment location. Water produced during sampling equipment decontamination will be dispersed at the Site in a vegetated area where soil samples have already been collected. All disposable materials used in sample collection and processing, such as paper towels and gloves, will be placed in heavyweight garbage bags or other appropriate containers. Disposable supplies will be placed in a normal refuse container for disposal at a solid waste landfill.

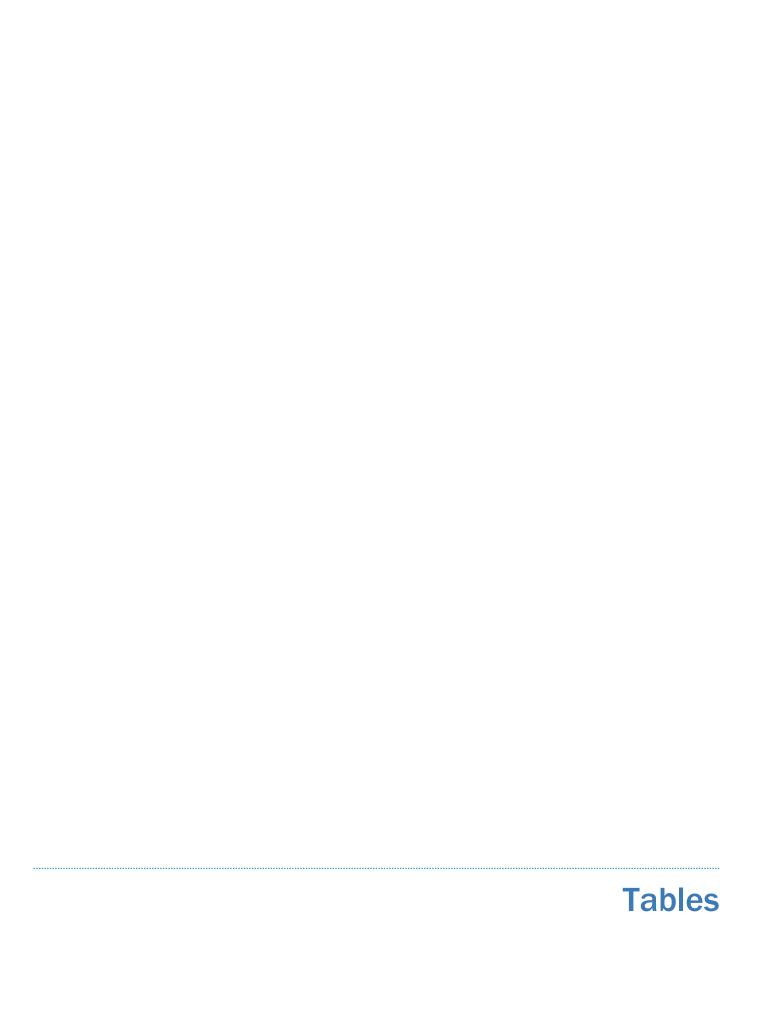
SECTION 4: Reporting

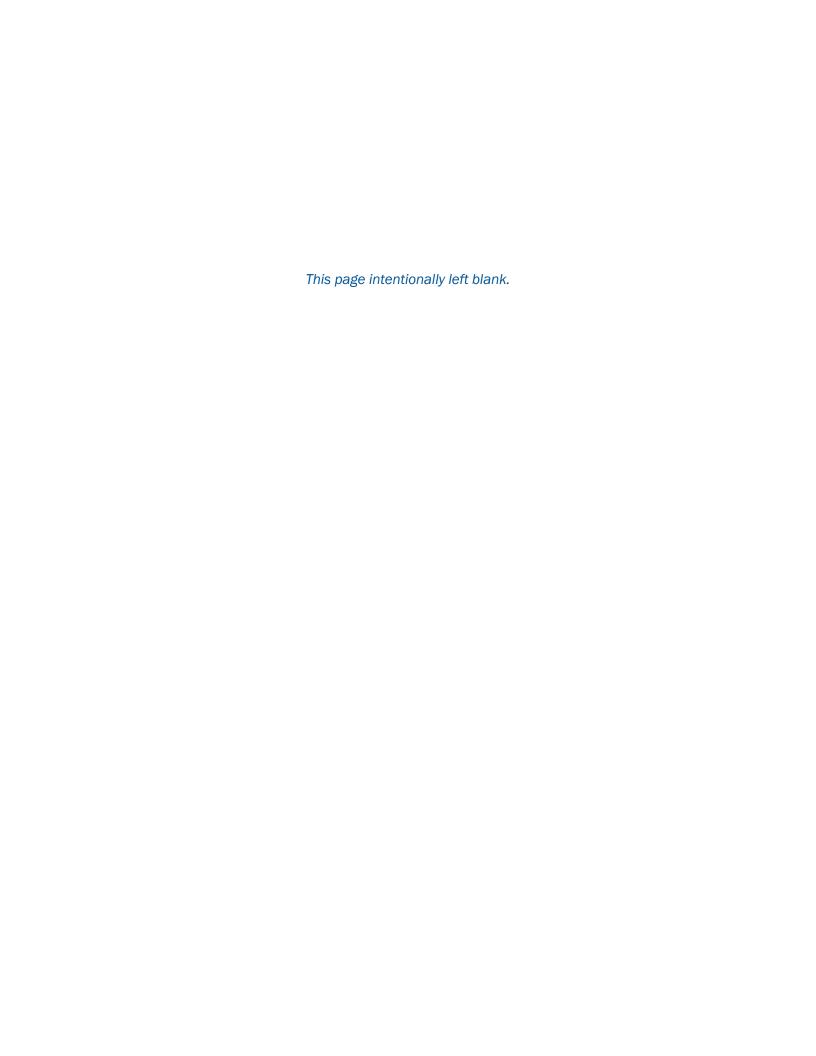
The data from this Work Plan will be included in a data evaluation technical memorandum. The data evaluation technical memorandum will document field activities, analytical results, and any potential data quality issues, and describe any deviations from the approach identified in this Work Plan.

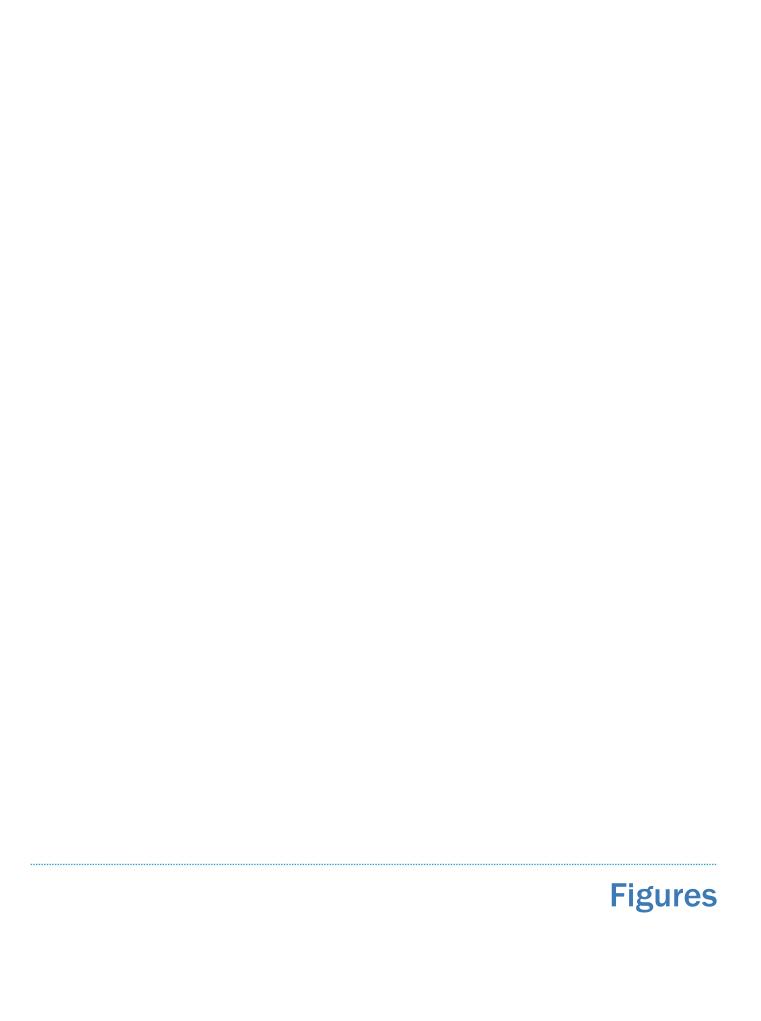
The technical memorandum will be submitted within 3 months after characterization of the work activities at the Site.

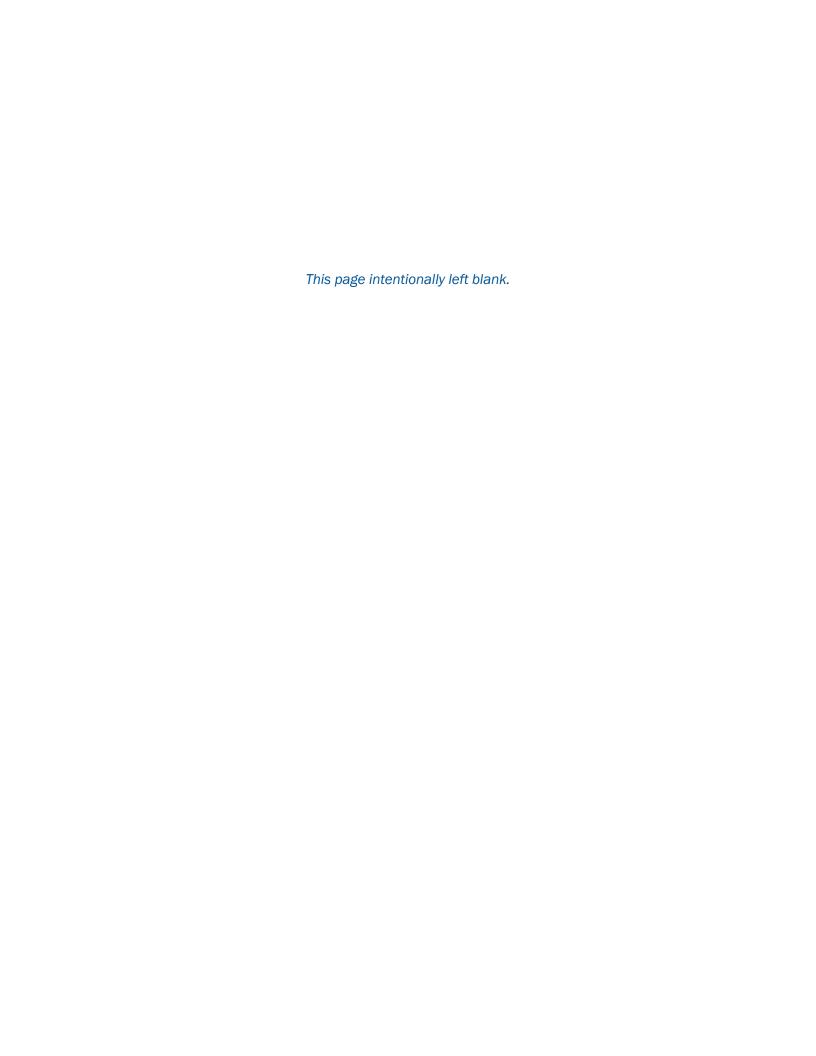
SECTION 5: References

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-APPENDIX A----EDR Aerial Photo Decade Package

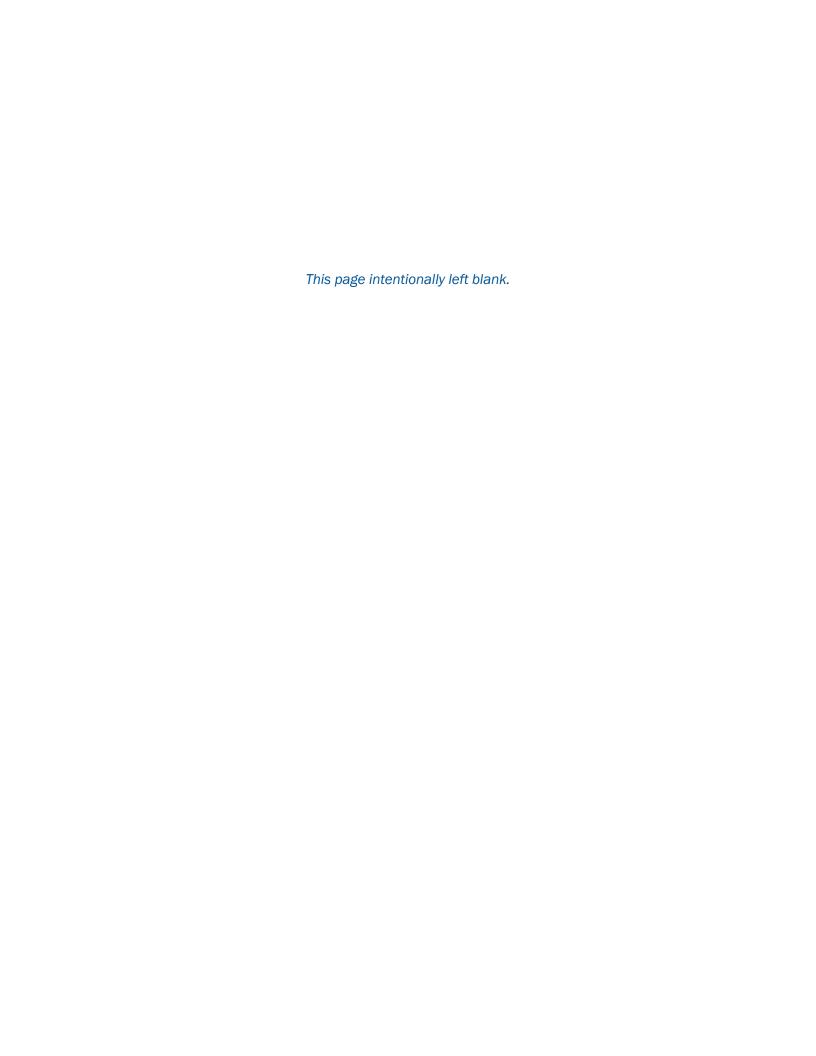


Table 1. Farm Ponds Parcels Soil and Lime Solids Analytical Results¹

Farm Ponds Parcels Site Characterization Work Plan

ATI Millersburg Operations, Oregon

Sal	mple Information			Volatile Organic Compounds (µg/Kg)														Semi-Volatile Organic Compounds (µg/Kg)					
Station	Depth (feet bgs)	Date	Tetrachloroethene (PCE)		Trichloroethene (TCE)		Acetone		Methylene Chloride		1,1- dichloroethane		Toluene		Ethylbenzene		m,p-xylene		o-xylene		di-n-butylphthalate		bis (2-ethylhexyl) phthalate
	ogenic <i>or</i> Nonca Composite Worke		100,00	0	6,000		670,000,0	000	1,000,0	000	16,00	0	47,000,	000	25,00	0	2,400,0	000	2,800,0	00	-		160,000
-	ngestion, Dermal for Construction		1,800,0	00	130,000)			-		3,200,0	00	28,000,	000	1,700,0	000	20,000,	000	20,000,0	000			1,300,000
FP-01	0-2	10/1991	-		-		-		-		-		-		-		-				50	J	340 U
FP-02	0-2	10/1991			-	\perp					-										66	J	340 U
FP-03	0-2	10/1991			-	_	-		-		-		-		-		-		-		340	U	340 U
FP-04	0-2	10/1991			-						-										63	J	370 U
FP-05 FP-06	0-2 0-2	10/1991 10/1991			-	_					-		-		-		-		-		62 45	J	360 U 340 U
FP-06 FP-07	0-2	10/1991	-										-		-						63	J	52 J
FP-08	0-2	10/1991																			55	J	35 J
Pond 1-1	0-2	6/2000	2.2	U		U	11.1	U	11.1	U	2.2	U	2.2	U	2.2	U	4.4	U	2.2	U	-	_	-
Pond 1-2	0-2	6/2000	2.2	J		U	11.6	U	11.6	U	2.3	U	2.3	U	2.3	U	4.6	U	2.3	U			
Pond 1-3	0-2	6/2000	20.6		2.4	U	11.9	U	11.9	U	2.4	U	2.4	U	2.4	U	4.7	U	2.4	U	_		-
Pond 2-1	0-2	6/2000	2.4	U	2.4	U	22.6		73.9		126		10.3		2.4	U	4.8	U	2.4	U	-		-
Pond 2-2	0-2	6/2000	2.4	U	2.4	U	34.2		58.3		2.4	U	5		2.4	U	4.8	U	2.4	U			-
Pond 2-3	0-2	6/2000	3.0			U	11.5	U	11.5	U	2.3	U	3.9		2.3	U	4.6	U	2.3	U			-
Pond 3-1	0-2	6/2000	2.4	U		J	20		12.1	U	2.5		5.6		2.4	U	4.8	U	2.4	U	-		
Pond 3-2	0-2	6/2000	2.6	U		J	16		12.9	U	1.9	J	9		2.6	U	5.1	U	2.6	U			-
Pond 3-3 Pond 4-1	0-2 0-2	6/2000 6/2000	2.6	U		U U	13.1 207	U	13.1	U	2.6	U	2.6 5.6	U	2.6 2.5	U	5.2 10	U	2.6 2.8	U			
Pond 4-1	0-2	6/2000	2.6	U		U	241		12.8	U	2.7	U	2.6	U	2.5		11.4		3.1				
Pond 4-3	0-2	6/2000	2.7	C		U	282		13.3	U	2.7	U	2.7	U	2.8		11.8		3.3				
PW-43A	6.5	8/1990	7	U		U	22	U	25	U	7	U	13		7	U	7	U	7	U			
PW-44S	4.1	8/1990	6	U	6	U	8	U	53		6	U	23		6	U	6	U	6	U	_		_
Base-A	> 4	8/2012	27.2	J	62.2	U	_				62.2	U											-
Base-B	> 4	8/2012	62.2	U	62.2	U	-		-		62.2	U	-		1		-				-		-
Base-C	> 4	8/2012	53.6	U		U					53.6	U											
Base-D	> 4	8/2012	21.6	J		U					52.3	U											
West Wall-A	-	8/2012	62.2	U		U	-				62.2	U	-		-		-		-		-		-
South Wall-A		8/2012	62.2	U		U	-		-		62.2	U											
South Wall-B South Wall-C		8/2012 8/2012	43.9 25.0	J		U U					55.7 52.9	U											
North Wall-A		8/2012	62.2	U		U					62.2	U											
North Wall-B		8/2012	53.9	U		U	-				53.9	U	-										
North Wall-C		8/2012	46.8	U		U					46.8	U											
North Wall-D		8/2012	50.5	U		U			_		50.5	U											_

Notes

 $^{\mbox{\scriptsize 1}}$ Constituents included only if detected or estimated to be present in one or more samples.

-- = Not analyzed bgs = below ground surface

μg/Kg = micrograms per kilogram mg/Kg = milligrams per kilogram

J = pollutant detected below the method detection limit; concentration is estimated PCB = polychlorinated biphenyl

RCRA = Resource Conservation and Recovery Act

U = pollutant not detected above the method detection limit

Bold indicates a detection above direct contact (THQ=1.0, TR=1E-06)

Table does not include subsurface soils samples collected above the water table (as indicated by "wet" or "saturated" soil on boring logs), and does not show soil samples collected east of the Farm Ponds for calculation of background metals concentrations.

Data sources: RI/FS soil sample analytical results (from 1989 to 1991) are from CH2M HILL (1993); post-closure soil sample results (from 2000) are from CH2M HILL (2003); well SS excavation samples (from 2012) are from GSI (2013).

If no Aroclors were detected, total PCBs were calculated as the sum of detection limits. If one or more Aroclors were detected, total PCBs were calculated as the sum of detected Aroclors and, for nondetect Aroclors, a value of half the detection limit.

1 of 3

Table 1. Farm Ponds Parcels Soil and Lime Solids Analytical Results¹

Farm Ponds Parcels Site Characterization Work Plan

ATI Millersburg Operations, Oregon

	erations, ore	- J																
Sample	e Information										etals g/Kg)							
Station	Depth (feet bgs)	Date	Arsenic	Barium	Beryllium	Cadmium	Chromium, total	Copper	Lead	Manganese	Mercury	Nickel	Silver	Thallium	Thorium	Uranium	Zinc	Zirconium
EPA RSL: Carcinoger for Com	nic <i>or</i> Nonca posite Worke	-	3.0	220,000	2,300	980	1,800,000	47,000	800	26,000	46		5,800	-		230	350,000	93
DEQ RBC: Soil Inges Inhalation for			15	69,000	700	350	530,000	14,000	800	8,200	110	7,000	1,800	-			-	
FP-01	0-2	10/1991	4.36 J	179 J	0.78	0.16	33.6	13.6	17.1	1410	-	11 J	0.07	0.54 U	6.44	1.02	52.5	1,250
FP-02	0-2	10/1991	2.07 J	131 J	0.42 U	0.09	26.9	12.4	11.4	485	-	8.61 J	0.07	0.54 U	6.64	1.02	38.8	603
FP-03	0-2	10/1991	2.69 J	152 J	0.41 U	0.09	31.2	12.9	14.2	681	-	10 J	0.07	0.54 U	6.52	0.98	46.6	350
FP-04	0-2	10/1991	2.64 J	123 J	0.44 U		28.8	14.3	14.6	596	-	9.8 J	0.09	0.57 U		1.09	47.6	399
FP-05	0-2	10/1991	2.06 J	132 J	0.43 U	0.14	29.4	12.5	22.2	484	-	9.65 J	0.05	0.56 U		0.98	72.6	620
FP-06	0-2	10/1991	2.77 J	156 J	0.41 U	0.12	36.1	14.7	13.7	812	-	12.5 J	0.07	0.53 U		1.13	60.8	400
FP-07 FP-08	0-2 0-2	10/1991 10/1991	2.66 J 2.77 J	157 J 168 J	0.41 U	0.09	33.2 36.5	13.2 14.1	13.5 14	879 926	-	12.7 J 13.2 J	0.05	0.55 0.53 U	6.04 5.95	0.98 1.03	61.5 62.3	2,390 676
Pond 1-1	0-2	6/2000					-				_		-		5.95			-
Pond 1-2	0-2	6/2000	_					_	_	_		_	-					_
Pond 1-3	0-2	6/2000	_							_		_	_				_	-
Pond 2-1	0-2	6/2000		-		-				-		-	-					-
Pond 2-2	0-2	6/2000	-	-	-	-	-	-	-	-	-	-	-	-		-		-
Pond 2-3	0-2	6/2000	-					-	-	-		-	-					-
Pond 3-1	0-2	6/2000										-						-
Pond 3-2	0-2	6/2000	-							-							-	-
Pond 3-3	0-2	6/2000	-															-
Pond 4-1 Pond 4-2	0-2 0-2	6/2000 6/2000						_								-		-
Pond 4-3	0-2	6/2000		-				-	-			-	-		-	-	-	_
PW-43A	6.5	8/1990	6.37	207	0.71	0.17	39.8	28.9	9.77	_	0.06 U	ļ	0.4 U		+	-	U 63.9	2,270
PW-44S	4.1	8/1990	4.21	2100	4.4	0.17	431	21.3	9.58	-	0.06 U		0.23 J	0.22 U		_	U 698	450
Base-A	> 4	8/2012	_	-				-				-	-			-		-
Base-B	> 4	8/2012								-		-	-					
Base-C	> 4	8/2012	-	-			-	-	-	-	-	-	-	-	-	-	-	-
Base-D	> 4	8/2012	-															-
West Wall-A	-	8/2012	-	-	-	-	-	-		-	-	-	-		-	-		-
South Wall-A		8/2012	-							-								-
South Wall-B South Wall-C		8/2012						_					-					-
North Wall-A		8/2012 8/2012		_	_	_	_	_		_	_	-	-	_			-	_
North Wall-A		8/2012		_	_	-	_	_	_	_	_	_	-			-	-	_
North Wall-C		8/2012	_		-	-	_	_	_	_	_	_	_		-	_	_	_
North Wall-D		8/2012	_	_		_		_		_	_	_	_	_				_

Table 1. Farm Ponds Parcels Soil and Lime Solids Analytical Results¹

Farm Ponds Parcels Site Characterization Work Plan

ATI Millersburg Operations, Oregon

Sampl		Polychlorinated Biphenyls (μg/Kg)																
Station	Depth (feet bgs)	Date	Aroclor 1016		Aroclor 1260		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Total PCB Aroclors	
EPA RSL: Carcinoge for Con	enic <i>or</i> Nonca nposite Worke		27,00	00	990		830		720		95	0	950		970		-	
DEQ RBC: Soil Inge Inhalation for			1		-		-		-		-				-		4,900)
FP-01	0-2	10/1991	33	С	17	С	83	U	83	U	33	U	17	U	17	U	283	U
FP-02	0-2	10/1991	33	U	17	U	83	U	83	U	33	U	17	U	17	U	283	U
FP-03	0-2	10/1991	33	U	17	U	83	U	83	U	33	U	17	U	17	U	283	U
FP-04	0-2	10/1991	36	U	18	U	89	U	89	U	36	U	18	U	18	U	304	U
FP-05	0-2	10/1991	35	U	17	U	87	U	87	U	35	U	17	U	17	U	295	U
FP-06	0-2	10/1991	33	U	16	U	82	U	82	U	33	U	16	U	16	U	278	U
FP-07	0-2	10/1991	33	U	16	U	82	U	82	U	33	U	16	U	16	U	278	U
FP-08	0-2	10/1991	33	U	16	U	82	U	82	U	33	U	16	U	16	U	278	U
Pond 1-1	0-2	6/2000	-				-		-						-		-	
Pond 1-2	0-2	6/2000	-						-						-		-	
Pond 1-3	0-2	6/2000	-						-						-		-	
Pond 2-1	0-2	6/2000	-						-						-		-	
Pond 2-2	0-2	6/2000	-						-						-		-	
Pond 2-3	0-2	6/2000	-														-	
Pond 3-1	0-2	6/2000	_						-									
Pond 3-2	0-2	6/2000	-						-						-			
Pond 3-3	0-2	6/2000	-														-	
Pond 4-1	0-2	6/2000	-														-	
Pond 4-2	0-2	6/2000	-														-	
Pond 4-3	0-2	6/2000	-														-	
PW-43A	6.5	8/1990	-														-	
PW-44S	4.1	8/1990	-						-						-		-	
Base-A	> 4	8/2012	32.1	U	32.1	U	32.1	U	32.1	U			281		77.8		423	
Base-B	> 4	8/2012	28.3	U	28.3	U	28.3	U	28.3	U			28.3	U	28.3	U	169.8	U
Base-C	> 4	8/2012	296	U	296	U	296	U	296	U			564		239	J	1395	
Base-D	> 4	8/2012	287	U	287	U	287	U	287	U			1600		481		2655	
West Wall-A	-	8/2012	33	U	33	U	33	U	33	U			33	U	33	U	198	U
South Wall-A		8/2012	33	U	33	U	33	U	33	U			122		41.8		229.8	
South Wall-B		8/2012	293	U	293	U	293	U	293	U			2110		657		3353	
South Wall-C		8/2012	284	U	284	U	284	U	284	U			1970		619		3157	
North Wall-A		8/2012	33.9	U	33.9	U	33.9	U	33.9	U			33.9	U	33.9	U	203.4	U
North Wall-B		8/2012	306	U	306	U	306	U	306	U			1410		500		2522	
North Wall-C		8/2012	293	U	293	U	293	U	293	U			2320		742		3648	
North Wall-D		8/2012	309	U	309	U	309	U	309	U			2550		1090		4258	



Table 2. Analytical Schedule for Soil Sampling

Farm Ponds Parcels Site Characterization Work Plan ATI Millersburg Operations, Oregon

		Analyte Schedu	Schedule						
Station ID	Station Description	Sampling Depth Method Interval Sample I		Sample ID	Metals ¹ (As, Mn, Zr)	PCB Aroclors ²	Radionuclides ³ (Ra-226/228, Th, U)	Volatile Organic Compounds ⁴	Total Organic Carbon ⁵
DU-01	Tax Lot 00204: adjacent to the west side of the former Farm Ponds	ISM	0-1 foot bgs	DU-01_MMYY	X	X	Х	Х	Х
DU-02	Former ponds location, western half	ISM	0-1 foot bgs	DU-02_MMYY DU-102_MMYY ⁶	X	X	Х	Х	Х
DU-03	Former ponds location, eastern half	ISM	0-1 foot bgs	DU-03_MMYY	X	Х	Х	Х	Х
1 1)()-()4	Area adjacent to the south side of the former Farm Ponds	ISM	0-1 foot bgs	DU-04_MMYY	Х	Х	Х	Х	Х
DU-05	Tax Lot 00105: adjacent to the east side of the former Farm Ponds	ISM	0-1 foot bgs	DU-05_MMYY	Х	Х	Х	Х	Х
DU-06	Tax Lot 00104: east side of site area	ISM	0-1 foot bgs	DU-06_MMYY	Х	Х	Х	Х	Х

Notes

EPA = U.S. Environmental Protection Agency MMYY = month-year format (e.g. 0821 for August 2021) Th = thorium

¹ Metals will include arsenic, manganese, and zirconium by EPA Method 6020B ICP/MS.

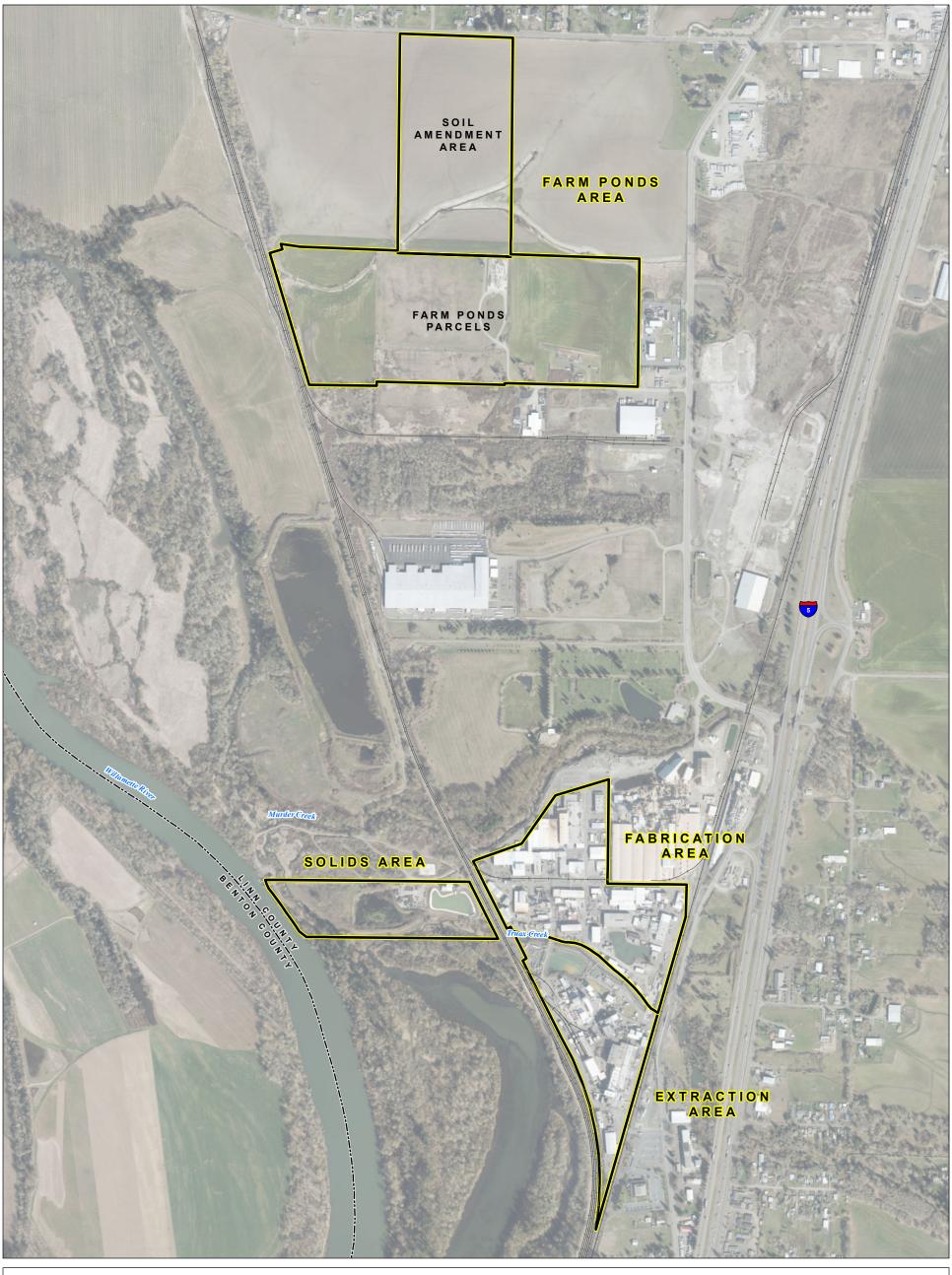
² PCB Aroclors analyzed by EPA Method 8082A.

³ Radionuclides include radium-226/228 (EPA Method EMSL-19), thorium and uranium (EPA Method M6020B ICP/MS).

⁴ Volatile organic compounds analyzed by EPA Method 9060A.

⁵ Total organic carbon analyzed by EPA Method 9060A.

⁶ ISM duplicate sample location





Date: June 29, 2021 Data Sources: OGIC, USGS, GeoTerra 2019

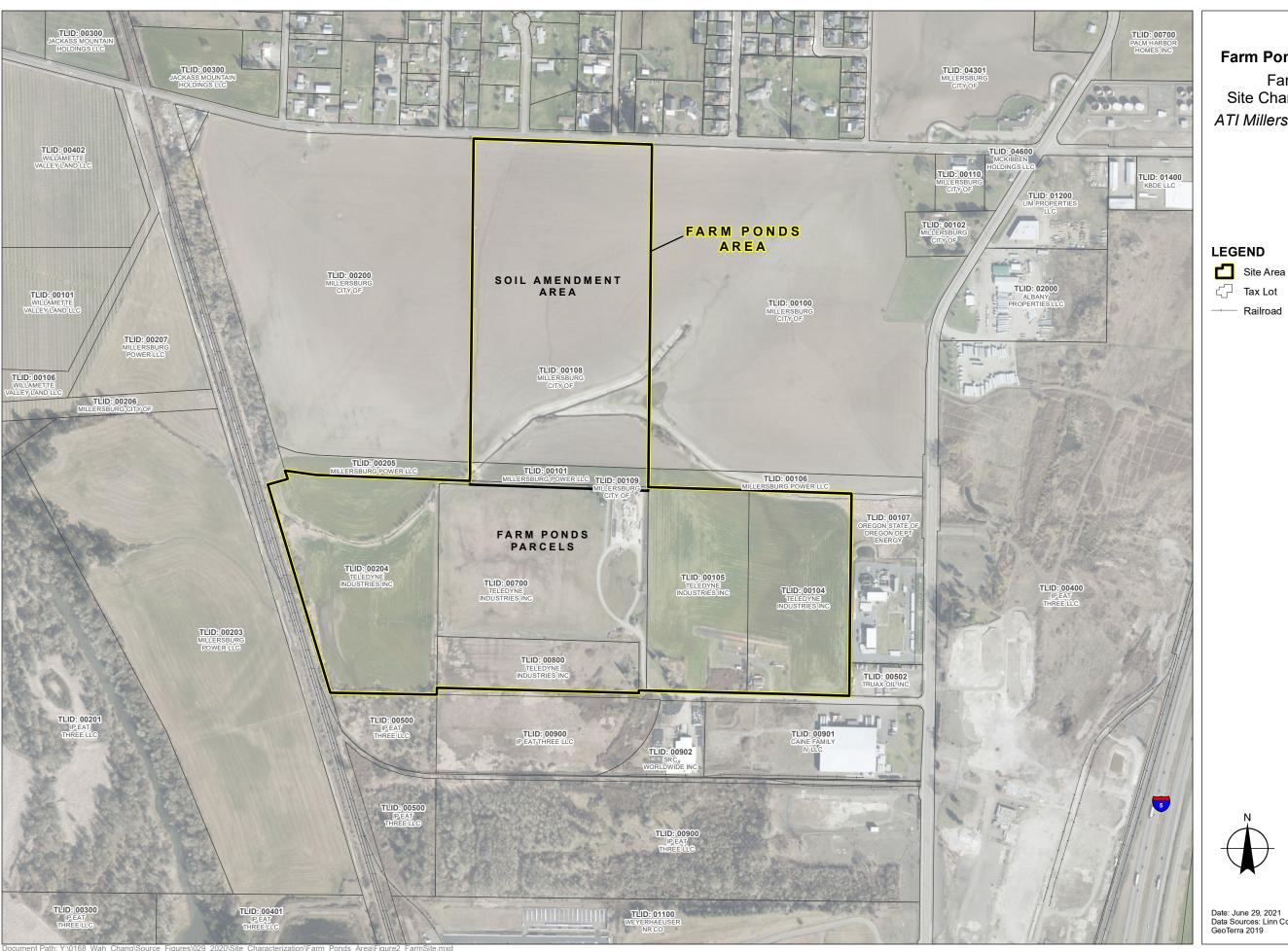


FIGURE 2

Farm Ponds Area Location Map

Farm Ponds Parcels Site Characterization Work Plan ATI Millersburg Operations, Oregon

LEGEND

Tax Lot

--- Railroad



250

Date: June 29, 2021 Data Sources: Linn Co., OGIC, USGS, GeoTerra 2019





FIGURE 3a

Soil and Lime Solid Samples

Farm Ponds Parcels
Site Characterization Work Plan
ATI Millersburg Operations, Oregon

LEGEND

Soil and Lime Solid Samples

- Deep Soil
- Shallow Soil
- Lime Solid

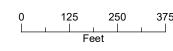
All Other Features

- Approximate Location of Former Farm Ponds
- Investigation Area Boundary
- Tax Lot
- ---- Railroad

NOTE

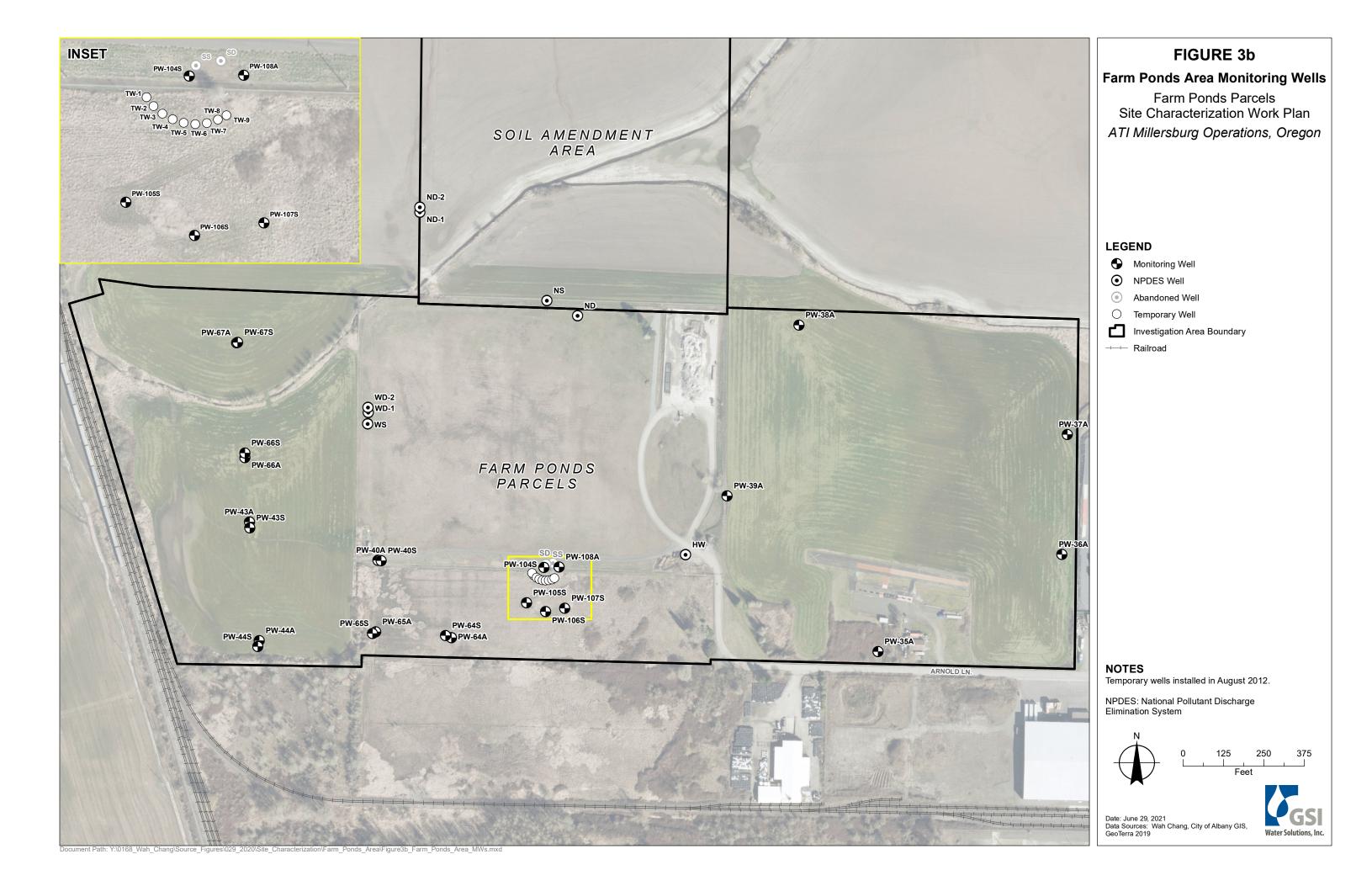
"FP" series samples are composite samples, unless followed by a "G" denoting a grab sample.





Date: June 29, 2021 Data Sources: Wah Chang, City of Albany GIS, CH2M Hill, GeoTerra 2019



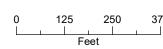




Proposed Sampling Map

Farm Ponds Parcels Site Characterization Work Plan ATI Millersburg Operations, Oregon

systematic random approach with ArcGIS 10.6.1 and Visual Sampling Plan 7.





ATI-Farm Ponds

2250 Old Salem Rd. NE Albany, OR 97321

Inquiry Number: 6349982.1

January 29, 2021

The EDR Aerial Photo Decade Package



EDR Aerial Photo Decade Package

01/29/21

Site Name:

(b)(4) convright

Client Name:

ATI-Farm Ponds 2250 Old Salem Rd. NE Albany, OR 97321 EDR Inquiry # 6349982.1 GSI Water Solutions 55 SW Yamhill Street Portland, OR 97204 Contact: Andrea Barry



(a)(i) aapyiigiit		

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